

pump or if the alarm is not equipped with a mixture pump, the influent flow rate is increased to twice the alarm's maximum design flow rate. After increasing the pressure or flow rate, the oil content in the mixture is increased until the alarm actuates. The ppm display is recorded and a sample of the mixture causing actuation is taken.

(e) *Test No. 4A Shutoff Test.* (1) The steps described in paragraph (d)(1) of this section are repeated.

(2) The metering and water pumps of the test rig are stopped for 8 hours with the bilge alarm left turned on with no other changes made.

(3) The metering and water pumps are started and the Test Fluid B content of the mixture is increased until the bilge alarm actuates. A sample of the mixture causing actuation is taken. The bilge alarm ppm display readings before and after the 8-hour period will be recorded.

(f) *Test No. 5A Supply Voltage Variation Test.* (1) The supply voltage to the bilge alarm is raised to 110 percent of its design supply voltage. The bilge alarm is fed with a mixture of Test Fluid B and water and the test fluid content of the mixture is increased until the bilge alarm actuates. The ppm display is recorded and a sample of the mixture causing actuation is taken.

(2) The supply voltage to the alarm is lowered to 90 percent of its design supply voltage. The bilge alarm is fed with a mixture of Test Fluid B and water and the test fluid content of the mixture is increased until the bilge alarm actuates. The ppm display is recorded and a sample of the mixture causing actuation is taken.

(3) Upon completion of the steps described in paragraph (f)(2) of this section, the supply voltage to the alarm is returned to its design value.

(4) The steps described in paragraphs (f)(1) through (f)(3) of this section are repeated varying each other power supply to the alarm in the manner prescribed in those steps for supply voltage.

(g) *Test No. 6A Calibration and Zero Drift Test.* (1) The steps described in paragraph (b)(1) of this section are repeated and then the steps in paragraph (d)(1) of this section are repeated.

(2) The bilge alarm is fed with a 15 ppm mixture of Test Fluid B and water for eight hours and any calibration drift is recorded. Samples of the mixture must be taken at the beginning of the test and at 2-hour intervals until the completion of the 8-hour period.

(3) Following the steps in paragraph (g)(2) of this section, the bilge alarm must be run on clean, oil-free water only and any zero drift must be recorded.

(h) *Test No. 7A Response Time Test.* (1) The bilge alarm is fed with a 40 ppm mixture of Test Fluid B and water until the bilge alarm actuates. The time of turning on the metering pump of the test rig and the time of alarm actuation are recorded. The flow rate on the flow meter of the test rig is also recorded.

(i) *Test No. 8A Shutdown and Restart Test.* (1) All power to the bilge alarm is shutoff for 1 week. After 1 week the alarm is then restarted, zeroed, and calibrated.

(2) The steps described in paragraph (d)(1) of this section are repeated. Water is then fed to the bilge alarm for 1 hour.

(3) The steps described in paragraph (i)(2) of this section are repeated seven additional times. During the last hour, the alarm must be inclined at an angle of 22.5° with the plane of its normal operating position.

[USCG-2004-18939, 74 FR 3391, Jan. 16, 2009]

§ 162.050-37 Vibration test.

(a) Equipment submitted for Coast Guard approval must first be tested under the conditions prescribed in paragraph (b) of this section. The test must be performed at an independent laboratory that has the equipment to subject the item under test to the vibrating frequencies and amplitudes prescribed in paragraph (b) of this section. The test report submitted with the application for Coast Guard approval must be prepared by the laboratory and must contain the test results.

(b)(1) Each oil content meter and bilge alarm and each control of a separator must be subjected to continuous sinusoidal vibration in each of the following directions for a 2 hour period in each direction:

(i) Vertically up and down;

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(ii) Horizontally from side to side; and

(iii) Horizontally from end to end.

(2) The vibrating frequency must be 80 Hz, except that the vibrating frequency of equipment that has a resonant frequency between 2 Hz and 80 Hz must be the resonant frequency. If the vibrating frequency is between 2 Hz and 13.2 Hz, the displacement amplitude must be ± 1 mm. If the vibrating frequency is between 13.2 Hz and 80 Hz, the acceleration amplitude must be $\pm[(.7)(\text{gravity})]$.

(c) After completion of the tests specified in paragraph (b) of this section, a search must again be made for resonance and any significant change in the vibration pattern must be noted in the test report.

[CGD 76-088a, 44 FR 53359, Sept. 13, 1979, as amended by USCG-2004-18939, 74 FR 3392, Jan. 16, 2009]

§ 162.050-39 Measurement of oil content.

The collection and testing of all samples of oil in water from the required test will be accomplished in accordance with ISO 9377-2 (2000), Water Quality—Determination of hydrocarbon oil index-Part 2: Method Using solvent extraction and Gas Chromatography (incorporated by reference, see § 162.050-4).

[USCG-2004-18939, 74 FR 3393, Jan. 16, 2009]

Subpart 162.060—Ballast Water Management Systems

AUTHORITY: 16 U.S.C. 4711; Department of Homeland Security Delegation No. 0170.1.

SOURCE: USCG-2001-10486, 77 FR 17311, Mar. 23, 2012, unless otherwise noted.

§ 162.060-1 Purpose and scope.

This subpart contains procedures and requirements for approval of complete ballast water management systems to be installed onboard vessels for the purpose of complying with the ballast water discharge standard of 33 CFR part 151, subparts C and D.

§ 162.060-3 Definitions.

As used in this subpart—

Active substance means a chemical or an organism, including a virus or a fungus, that has a general or specific ac-

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tion on or against nonindigenous species.

Administration means the government of the nation/State under whose authority a vessel is operating.

Ballast water means any water and suspended matter taken onboard a vessel to control or maintain trim, draught, stability, or stresses of the vessel, regardless of how it is carried.

Ballast water management system (BWMS) means any system which processes ballast water to kill, render harmless, or remove organisms. The BWMS includes all ballast water treatment equipment and all associated control and monitoring equipment.

Ballast water system means the tanks, piping, valves, pumps, sea chests, and any other associated equipment that the vessel uses for the purposes of ballasting.

Ballast water treatment equipment means that part of the BWMS that mechanically, physically, chemically, or biologically processes ballast water, either singularly or in combination, to kill, render harmless, or remove organisms within ballast water and sediments.

Challenge water means water just prior to treatment. In land-based tests, source water may be augmented to achieve required challenge water conditions.

Control and monitoring equipment means that part of the BWMS required to operate, control, and assess the effective operation of the ballast water treatment equipment.

Hazardous location means areas where fire or explosion hazards may exist due to the presence of flammable gases/vapors, flammable liquids, combustible dust, or ignitable fibers, as determined in accordance with the standards of construction applicable to the vessel on which the BWMS is to be installed.

Hazardous materials means hazardous materials as defined in 49 CFR 171.8; hazardous substances designated under 40 CFR part 116.4; reportable quantities as defined under 40 CFR 117.1; materials that meet the criteria for hazard classes and divisions in 49 CFR part 173; materials under 46 CFR 153.40 determined by the Coast Guard to be hazardous when transported in bulk; flammable liquids defined in 46 CFR 30.10-